and Kolhörster[1] both experimentally and theoretically, with the result that they do not find it possible to ascribe the coincidence effects to a γ-type radiation unless some new phenomenon is postulated. In view of our present result it would seem desirable to reexamine this question. On the experimental side a possibility in this direction would be to look for a definite correlation between coincidences in tube-counter and tracks in a suitably disposed cloud expansion apparatus. Such an experiment appears feasible and is in progress.

In view of the foregoing considerations and also on account of certain difficulties[3] with the assumption of a corpuscular nature for the cosmic radiation, it would seem that a definite conclusion with regard to the significance of the present experiment must await further study.

A part of this work was done at the California Institute through the kindness of the members of the administration of that institution.

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[3] See R. A. Millikan and G. H. Cameron, Phys. Rev. **37,** 235 (1931)

Transmission of Gases from 20 to 33μ

In a letter to this section Dickinson and West[1] reported a Raman shift for liquid sulfur dioxide of 524.3 cm^{-1}. Bailey, Cassie and Angus[2] interpret this as a combination band. I have found the transmission of a four inch layer of this gas for the 20.75μ quartz reststrahlen to be only 7 percent. Such strong absorption would seem more likely to be associated with a fundamental band.

The transmissions of several gases have been determined in the spectral region 20–33μ and the results are given in Table I. These values are for a layer of gas four inches thick at atmospheric pressure and are probably correct to 2 percent.

TABLE I.

Gas	Reststrahlen Wave-length:	20.75μ	22.9μ	27.3μ	29.4μ	32.8μ
SO_2		7	58	100	99	96
NH_3		65	95	84	79	63
H_2S		96	98	93	89	82
N_2O		86	100	100	100	100
C_2H_2		95	100	100	98	97

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[1] Roscoe G. Dickinson and S. Stewart West, Phys. Rev. **35,** 1126 (1930).

[2] C. R. Bailey, A. B. D. Cassie and W. R. Angus, Roy. Soc. Proc. **A130,** 133 (1930).

A Preliminary Report of the Application of the Photoelectric Cell to the Reading of Minima in a Magneto-Optic Method of Analysis

It has been found that chemical compounds in solution, when traversed by polarized light and subjected to particular types of transient magnetic fields, are characterized under certain conditions by the scale readings of the minima of light intensity produced, by means of which a compound may be detected when present in a concentration as low as about 1 part in 10^{11} (Allison and Murphy, Journal the American Chemical Society **52,** 3796 (1930); Physical Review **36,** 1097 (1930)). These results have been interpreted upon the hypothesis of differential time lags in the Faraday effect. Inasmuch as the results thus far reported were obtained by visual observations only, the importance of devising some objective means of reading the minima has long been recognized. We have recently suc-